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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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STEIN, MCEWEN & BUI, LLP
1400 EYE STREET, NW
SUITE 300
WASHINGTON, DC 20005

EXAMINER	
ALUNKAL, THOMAS D	

ART UNIT	PAPER NUMBER
2627	

DATE MAILED: 10/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/769,756	LEE, KYUNG-GEUN	
	Examiner	Art Unit	
	Thomas D. Alunkal	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-30 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-30 of copending Application No. 11/429968. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims only differ in the fact that the current application claims a storage medium while the copending application claims a reproducing apparatus. It would have been obvious to one of ordinary skill in the art at the time the invention was made that changing from a storage medium to a reproducing apparatus, while the remaining limitations in the claims remain the same, does not render the storage medium patentably distinct.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-31 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-30,32 of copending Application No. 10/769986. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims only differ in the fact that the current application claims a storage medium while the copending application claims a method. It would have been obvious to one of ordinary skill in the art at the time the invention was made that changing from a storage medium to a method, while the remaining limitations in the claims remain the same, does not render the storage medium patentably distinct.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-31 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-30,32 of copending Application No. 10/769987. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims only differ in the fact that the current application claims a storage medium while the copending application claims a recording apparatus. It would have been obvious to one of ordinary skill in the art at the time the invention was made that changing from a storage medium to recording apparatus, while the remaining limitations in the claims remain the same, does not render the storage medium patentably distinct.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-13,15-24, and 31 are rejected under 35 U.S.C. 102(e) as being anticipated by Kondo et al (hereafter Kondo) (U.S. 6,930,977).

Regarding claim 1, Kondo discloses a read-only optical information storage medium comprising a plurality of areas (Figure 20) in which data is recorded in the form of pits, wherein the pits in at least one of the plurality of areas (Column 16, lines 63-64) are of a different pit pattern than pits formed in others of the plurality of areas (Column 16, lines 64-65).

Regarding claim 2, Kondo discloses the plurality of areas includes a burst cutting area (Column 17, lines 3-4), a lead-in area (Column 16, lines 63-64), a user data area (Figure 20, Element 311), and a lead-out area (Figure 20, 311, outer circumference).

Regarding claim 3, Kondo discloses a pattern of pits formed in the burst cutting area is different from a pattern of pits formed in at least one of the lead-in area and the user data area (Column 16, lines 63-65).

Regarding claim 4, Kondo discloses the pattern of pits formed in the burst cutting area is one of a first straight pit and first pit wobble (Figure 21, Element 15a and Column 7, lines 3-5. The pit array closest in the inner circumference coincides wit the burst cutting area), and the pattern of the pits formed in at least of the lead-in area and the user data area is one of a second straight pit row that is different from the first straight pit row and a second pit wobble that is different from the first pit wobble (Figure 21, Elements 15b-15d).

Regarding claim 5, Kondo discloses each of the first straight pit row and the second straight pit row has pits formed in one of a single straight pit pattern, a specific straight pit pattern, or a random straight pit pattern (Figure 21 shows random pit patterns).

Regarding claim 6, Kondo discloses each of the first pit wobble and the second pit wobble is one of a single pit wobble pattern, a specific pit wobble pattern, or a random pit wobble pattern (Figure 21 shows random pit patterns).

Regarding claim 7, Kondo discloses at least one of the burst cutting area, the lead-in area, the user data area, and the lead-out area is divided into a plurality of sub-areas, and wherein pits in each of the sub-areas are of different pit patterns (Figure 21, Elements 15b-15d. Elements 15b-15d represent the lead-in area, which after the BCA, starts from the inner circumference).

Regarding claim 8, Kondo discloses the lead-in area includes first and second areas, pits are formed in the first area in one of a third straight pit pattern and a third pit wobble pattern (Figure 21, Element 15b), and pits are formed in the second area in one of a fourth straight pit pattern and a fourth pit wobble pattern (Figure 21, Element 15c).

Regarding claim 9, Kondo discloses each of the third straight pit pattern and fourth straight pit pattern is one of a single straight pit pattern, a specific straight pit pattern, and a random straight pit pattern (Figure 21 shows random pit patterns).

Regarding claim 10, Kondo discloses each of the third pit wobble and the fourth pit wobble is one of a single pit wobble, a specific pit wobble and a random pit wobble (Figure 21 shows random pit patterns).

Regarding claim 11, Kondo discloses wherein the user data area includes a plurality of basic recording units (Figure 17, ECC Block), and run-ins and run-outs that are respectively located before and after the basic recording units (Figure 17, Sync Blocks).

Regarding claim 12, Kondo discloses the basic recording units are one of physical clusters, sectors, ECC block (Figure 17, ECC Block), and frames.

Regarding claim 13, Kondo discloses a pattern of pits formed in the basic recording units is identical to a pattern of pits formed in the run-ins and run-outs (Column 8 ,lines 4-6).

Regarding claim 15, Kondo discloses each of the first pit wobble and the second pit wobble is one of a single pit wobble pattern, a specific pit wobble pattern, or a random pit wobble pattern (Figure 21 shows random pit patterns).

Regarding claim 16, Kondo discloses at least one of the burst cutting area, the lead-in area, the user data area, and the lead-out area is divided into a plurality of sub-areas, and wherein pits in each of the sub-areas are of different pit patterns (Figure 21, Elements 15b-15d. Elements 15b-15d represent the lead-in area, which after the BCA, starts from the inner circumference).

Regarding claim 17, Kondo discloses the lead-in area includes first and second areas, pits are formed in the first area in one of a third straight pit pattern and a third pit wobble pattern (Figure 21, Element 15b), and pits are formed in the second area in one of a fourth straight pit pattern and a fourth pit wobble pattern (Figure 21, Element 15c).

Regarding claim 18, Kondo discloses each of the third straight pit pattern and fourth straight pit pattern is one of a single straight pit pattern, a specific straight pit pattern, and a random straight pit pattern (Figure 21 shows random pit patterns).

Regarding claim 19, Kondo discloses each of the third pit wobble and the fourth pit wobble is one of a single pit wobble, a specific pit wobble and a random pit wobble (Figure 21 shows random pit patterns).

Regarding claim 20, Kondo discloses at least one of the burst cutting area, the lead-in area, the user data area, and the lead-out area is divided into a plurality of sub-areas, and wherein pits in each of the sub-areas are of different pit patterns (Figure 21, Elements 15b-15d).

Regarding claim 21, Kondo discloses the lead-in area includes first and second areas, pits are recorded in the first area in one of a third straight pit pattern and a third pit wobble pattern (Figure 21, Element 15b), and pits are recorded in the second area in

one of a fourth straight pit pattern and a fourth pit wobble pattern (Figure 21, Element 15c).

Regarding claim 22, Kondo discloses wherein the user data area includes a plurality of basic recording units (Figure 17, ECC Block), and run-ins and run-outs that are respectively located before and after the basic recording units (Figure 17, Sync Blocks).

Regarding claim 23, Kondo discloses the basic recording units are one of physical clusters, sectors, ECC block (Figure 17, ECC Block), and frames.

Regarding claim 24, Kondo discloses a pattern of pits formed in the basic recording units is identical to a pattern of pits formed in the run-ins and run-outs (Column 8 ,lines 4-6).

Regarding claim 31, Kondo discloses a read-only optical information storage medium comprising a plurality of recording layers (Column 14, lines 15-18) each have a plurality of areas (Figure 20) in which data is recorded in the form of pits, wherein the pits in at least one of the plurality of areas (Column 16, lines 63-64) are of a different pit pattern than pits formed in others of the plurality of areas (Column 16, lines 64-65).

Claims 25 is rejected under 35 U.S.C. 102(e) as being anticipated by Kondo (U.S. 2003/0053404).

Regarding claim 25, Kondo discloses a read-only optical information storage medium (comprising a plurality of areas (Paragraph 81), in which data is recorded in the form of pits, wherein the pits in at least one of the plurality of areas are formed by a

recording modulation method different from a recording modulation method used to form the pits others of the plurality of areas (Paragraph 81).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo et al (hereafter Kondo) (U.S. 6,930,977) as applied to claims 1-13 above, and further in view of Nagaswara et al (hereafter Nagaswara) (U.S. 6,069,869).

Regarding claim 14, Kondo discloses all limitations of parent claims above. Kondo does no disclose a pattern of pits formed in the basic recording units is different from a pattern of pits formed in the run-ins and run-outs. Kondo discloses identical pit patters. However Nagaswara discloses a pattern of pits formed in the basic recording units is different from a pattern of pits formed in the run-ins and run-outs (Column 6, lines 11-15). Nagaswara discloses that using a different pattern of pits in the basic recording unit and the run-ins and run-outs results reliable detection with a lower error rate (Column 5, lines 49-51).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made for the apparatus of Kondo to have run-in and run-out pit patterns different from that of the basic recording block in order to lower the error rate which results from unreliable detection.

Claim 26-30 rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo (U.S. 2003/0053404) as applied to claim 25 above, and further in view of Figure 1 (Applicant Disclosure).

Regarding claim 26, Kondo discloses all limitations of parent claim above. While Kondo does disclose that the optical disc used in his invention has a plurality of areas (see Paragraph 81), Kondo does not specifically name the plurality of areas. However, as admitted by applicant as prior art, a conventional optical disc includes a burst cutting area, a lead-in area, a user data area, and a lead-out area. Thus, based on what was well know prior art at the time of the invention as disclosed by applicant, it would have been obvious to one of ordinary skill in the art to include the aforementioned disc areas into the disc disclosed by Kondo.

Regarding claim 27, Kondo discloses a recording modulation method used in the burst cutting area is different from a recording modulation method used in at least one of the lead-in area and the user data area (Paragraph 81. Kondo discloses that different modulation methods can be used for different areas on the disc.)

Regarding claim 28, Kondo discloses the recording modulation method used in the burst cutting area, the lead-in area, and the user data area is one of a RLL(d,k) modulation method (Paragraph 94. NRZI is an equivalent to RLL(d,k) modulation) and a bi-phase modulation method (Paragraph 94).

Regarding claim 29, Kondo discloses at least one of the burst cutting area, the lead-in area, the user data area, and the lead-out area is divided into a plurality of sub-areas, and the pits in the sub-areas are formed using different modulation methods

(Paragraph 81. Kondo discloses that two different modulation methods can be adopted in the same recording area).

Regarding claim 30, Kondo discloses the lead-in area comprises first and second sub areas (Paragraph 81. Kondo discloses that two different modulation methods can be adopted in the same recording area), the first area uses one of the RLL (d,k) modulation method and the bi-phase modulation method (Paragraph 94), and the second area uses a different recording modulation method from the first area (Paragraphs 81 and 94. Kondo discloses that different modulation methods can be used in the same areas, and that these modulation methods be used in combination).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas D. Alunkal whose telephone number is (571)270-1127. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571)272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Thomas Alunkal

WAYNE YOUNG
SUPERVISORY PATENT EXAMINER